age, at Barking-creek; but it will be needful in that case to extend the Whitehall sewer from Scotland-yard so as to intercept the main low level sewer at Chelsea-road.

Having described the tracts to be drained, I have now to lay before the committee a statement of the means by which it is proposed to accomplish the effectual interception of sewage upon the principles laid down.

Commencing with the upper portion of the tract coloured red upon the general plan, and taking as a starting point the pumping station (hereafter to be more fully alluded to) on the eastern bank of the river Lea, at which point the whole of the sewage of both the high and low level districts will be concentrated, the main high level sewer commences, and crosses over the river Lea, near the "Four Mills," proceeding in a westerly direction under the East and West India Dock Railway and the Blackwall Extension Railway, beneath the Regent's Canal, to the east end of the Bethnal-green-road, at the crossing of the Cambridge-heath-road, at which point it will be joined by the proposed northern diversion of the Hackney-brook, which drains an extensive district up to the water-shed line north of London, including Hackney, Stoke Newington, and Holloway, and part of Highgate and Hampstead: from thence the main sewer proceeds along the Bethnal-green-road, Church-street, Old-street, Wilderness-row (where a short branch from Coppice-row will join), to Brook-street-hill; from thence to Little Saffron-hill, where a distance of about a hundred yards is proposed to be carried by an aqueduct over the Fleet valley; thence along Liquorpond-street, at the end of which it will receive a branch from Piccadilly on the south side, and a diversion of the Fleet-river on the north side; thence along Theobald's-road, Bloomsbury-square, Hart-street, New Oxford-street, to Rathbone-place, where it receives a diversion of the Regent-street sewer from Park-crescent; along Oxford-street, and extending thence across Regent-circus to Whitehorse street, where it will intercept the King's Scholars' Pond sewer; continuing still along Oxford-street to Bayswater-place, Uxbridge-road, where it is joined by the Ranelagh sewer, the sewage of which it is capable of receiving, and at this point it terminates.

	Miles.	Yards.
The length of this main high level sewer will be about	7	1,143
The Hackney-brook branch north	6	1,417
The Coppice-row branch north	0	1,135
The Piccadilly branch south	1	1,585
The interception of the Fleet up the Gray's-inn-road north	1	266
The Rathbone-place and Cleveland-street interception of the Regent-street sewer north	0	1,600
Making a total of	19	106

With respect to the low level tract, coloured blue on the general plan, it is proposed, commencing as before at the lifting point on the eastern bank of the river Lea, to construct a sewer at a depth of 47 feet below the invert of the high level sewer, proceeding beneath the river Lea, near to Four Mills Distillery, taking the north-western bank of the Limehouse-cut, at which point it receives the branch intended to intercept the sewage of the Isle of Dogs, thence continuing along the bank of Limehouse-cut, through a portion of the Commercial-road, Brook-street, and beneath the Sun Tavern-fields, into High-street, or Upper Shadwell, at a point opposite to the church; thence along Ratcliffe-highway and Upper East Smithfield, across Tower-hill, through Little and Great Tower-streets, Eastcheap, Cannon-street, Little and Great St. Thomas Apostle, Trinity-lane, Old Fish-street, and Little Knightrider-street; thence beneath houses in Wardrobe-terrace, and on the eastern side of St. Andrew's-hill, along Earl-street to Blackfriars-bridge. From Blackfriars-bridge it is proposed to construct the sewer along the river shore to the junction of the Victoria-street sewer at Percy-wharf, which [illegible] Percy-wharf and Bloomfield-terrace, Pimlico, becomes an integral portion of the intercepting line at Bridge-street, Westminster. A branch from the Victoria-street sewer is intended to proceed along Abingdon-street and Millbank-street, so far as and for the purpose of taking up the King's Scholars' Pond, and other sewers, at their outlets into the Thames.

From Shaftesbury-terrace the Victoria-street sewer is proposed to be extended through Eaton-square and along the King's-road, Chelsea, to Park-walk, intercepting all the sewers along its line, and terminating at a point where the drainage of Kensington may be brought into it without pumping.

	Miles.	Yards.
The total length of the main low level sewer, including the extension of the Victoria-street sewer to Chelsea will be about	8	1,601
The length of the branch southwards and westwards for the drainage of the Isle of Dogs about	4	360
The branch from Bridge-street, Westminster, along Millbank	1	1,300
The total length being about	14	1,501

Having now described the whole of the lines of intercepting sewers westward of the proposed pumping station on the eastern bank of the river Lea, I have, in the next place, to lay before you a similar statement as regards their proposed extension from that point to the outlet.

The invert of the high level sewer at the pumping station will be 20 feet above the Ordnance *datum*; the invert of the lower level sewer will be 27 feet below the Ordnance *datum*; the difference between the two being about 47 feet. The sewage of the lower level will thus be lifted to the higher level by steam-power, and both will be conveyed by two parallel lines of sewers from the pumping station to the bank of the river Roding, being the eastern extremity of Galleons-reach. The length of this extension will be four miles.

At this point the level of the inverts of the parallel sewers will be eight feet below high water mark, and here it is intended to collect the sewage into a reservoir during the flood tide, and discharge the same with the ebb tide immediately after high water; and as it is estimated that the reservoir will be competely emptied during the first three hours of the ebb, it may be safely anticipated that no portion of the sewage will be returned with the flood tide to within the bounds of the metropolis.

The inclination which has been assigned to the whole of the lines of sewers, with the exception of an inconsiderable portion, is not less than four feet per mile, or 1 in 1,320.

The sewers are calculated to carry off a fall of rain equal to a quarter of an inch in 24 hours, in addition to the average daily flow of sewage, which, in anticipation of the progressive increase in the population, has been assumed at double the present water supply. The pumping power needed to raise the sewage and rainfall of the lower level to the required height (or 47 ft.) is estimated at 1,100 horse power, in order to meet which it is proposed to erect two 550 horse power engines, together with a third engine of equal power (550 horse power), to meet the contingency of accident or want of reparation.

An abstract of the various lengths of sewers proposed will be as follows, viz.:—

	Miles.	Yards.
Of the high level sewer and its branches	19	106
The low level ditto and branches	14	1,501
The extension from the pumping station to the point of discharge at Barking-creek (parallel sewers), four miles each length	4	0
Making a total of	37	1,607

The whole of the sewage and rainfall (with the trifling exception before stated) of the areas coloured red and blue upon the plan (which at present discharge by the various outlets into the Thames) will be diverted and carried down to Barking-creek, excepting upon [illegible] heavy rains, or in frequent and violent storms, when the surplus water will be carried off by certain of the existing outlets into the river, but upon all such occasions the first scour or cleansings of the sewers will be conveyed to the main outlet at the river Roding.

From the time consumed in the manifold considerations necessarily involved in works so extensive in their nature, I have been prevented from laying before you a detailed estimate of the cost of the plan of interception. I am therefore only able to submit approximately that I estimate the cost of the whole of the lines of sewers, the pumping-engines, and station, the reservoir, tidal-gates, and other apparatus, at 1,080,000*l.*

This estimate does not include the sums required for the purchase of land and houses which may be needed for the site of the pumping-engine-house, and compensation for certain portions of the lines of sewer."

Sir H. De la Beche (in the chair) said it would be observed that in the report they proposed to avail themselves of two methods of draining the northern side of the metropolis, viz., to take a certain portion under a general level, and by means of what was generally called "gravity," to carry away all the sewage by a uniform slope of 4 feet per mile to Galleons-reach, which was, in fact, to arrest all the sewage that flowed into the Thames at that level, and to carry it away. Then another portion was left, which was to be raised by artificial means, in order to be carried to the same distance. That artificial raising was to be effected by steam power. He should not enter into the details of the scheme, but, looking at the whole plan as a generality, he thought it would strike the Commissioners as having a general resemblance to that which had been sketched out to them by Capt. Vetch some time previously. The main point was to convey away the whole of the sewage from the Thames, and to take it down to a point whence it could not return to annoy the inhabitants of the metropolis, and this plan, when finally adopted and carried out, would, in conjunction with that upon the southern side, entirely remove the sewage of London to beyond a point whence it could ever return again.

On the motion of the chairman, seconded by Mr. Alderman Lawrence, it was resolved, "That the engineer be instructed to prepare detailed plans and estimates in respect to the works recommended in the report now presented to this Court, and, so far as may concern the city of London, that such plans and estimates be prepared in conjunction with the surveyor to the Commissioners of Sewers for the City (Mr. Haywood)."

[Mr. Haywood, it is right to state, co-operated with Mr. Forster in the preparation of the report.]

Mr. Peto, M.P., said, in the course of other observations, that assuming this plan to cost 1,050,000*l.*, and assuming that, with the various incidental expenses which they all knew would arise in public works, and taking into account the further contingencies that might result for the site of the engine-house and compensation to parties who would be injured during their execution, he would take the estimated cost at 1,250,000*l.*, and he inquired what would produce that amount in thirty years, taking it at first at 4 per cent., and then at 5 per cent.? He found that the rental of the district north of the Thames, exclusive of Fulham and Hammersmith, was 6,337,624*l.*, and that a rate of only 3d. in the pound for a period of thirty years would reproduce the whole amount of 1,250,000*l.*, and would give to those who should succeed them at the termination of that time a perfect system of sewerage, for which every farthing would be paid. This was a very important fact. 3d. in the pound would cover the whole expense upon the northern side of the Thames, and 2d. in the pound the whole expense upon the southern side. The speaker strongly urged the establishment of public "bathing places."

On the motion of Mr. Hardwick, who said he considered this report was the most important that had been brought under the notice of a public board for many years, it was resolved, [illegible] that the report upon the drainage of the metropolis north of the Thames, including